

App 2

## **Appendix II. Summary of SRSA Needs Analysis**

This appendix summarized results of the needs analysis for SRSA agencies requesting water. Table A presents local agency's request, needs and reasons for reduction (if any).

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Table A Sacramento River Service Area Requests and Needs Summary  
(With Refuge Supply Levels 2 and 4)

Agency	Request	Need	Reason for Reduction
AGRICULTURE			
Colusa County WD	55000	55000	No reduction
Colusa Drain MWCo.	20000	0	The discrepancy stems primarily from different safe yield estimates: Reclamation's estimate is 64,700 AF, whereas the Company's is on the order of 28,600 AF (based on the request).
Corning WD	18000	7800	The District bases its request on a DDR (a) of 3.48 AF/A for 13,000 acres compared to Reclamation's 3.51 AF/A for 12,525 acres. Also, the District uses a safe yield of 6,500 AF/yr compared to Reclamation's current estimate of 10,900 AF/yr.
Dunnigan WD	10000	5600	The District bases its request on a total DDR of 35,535 AF for 10,000 acres, indicating a unit DDR of 3.55 AF/A. It is deduced from the District's request and supporting information that this requirement would be met by 19,000 AF of CVP water under existing contract, 10,000 under its requested contract, and (by subtraction) 6,535 AF from pumped groundwater. In comparison, Reclamation's analysis indicates a unit DDR of 3.15 AF/A for 9,500 acres under the same cropping pattern for a total DDR of 29,900 AF. Subtracting Reclamation's current estimated safe yield of 5,300 AF indicates a need for 5,600 AF of additional CVP water, or 4,400 AF less than the District's request.
Glenn-Colusa ID	40000	23800	The District has requested 40,000 AF for 13,191 acres, or an average of 3.03 AF/A, in addition to an unspecified amount of groundwater pumping. In comparison, Reclamation's analysis indicates a total DDR of 43,300 AF for the same area, or an average of 3.28 AF/A. Reclamation's estimate of safe yield is 19,500 AF, resulting in a need of 23,800 AF of CVP water, or 16,200 AF less than the District's request.
Glenn County Lands Glide WD	2900	2000	The District has requested 2,900 AF for 900 acres, or 3.02 AF/A, based upon no utilization of groundwater. In comparison, Reclamation's analysis indicates a total DDR of 3,100 AF for the same area, or a unit DDR of 3.23 AF/A. Reclamation's estimated groundwater safe yield is 1,100 AF, resulting in a need for 2,000 AF of CVP water, or 900 AF less than the District's request.
Kanawha WD	12000	9200	The District has requested 12,000 AF for 4,000 acres, or 3.00 AF/A, without indicating whether this is a full or partial

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Orland-Artois WD	12000	9500	<p>requirement and whether groundwater safe yield would be utilized also. In comparison, Reclamation's analysis indicates a total DDR of 13,800 AF for the same area, or a unit DDR of 3.45 AF/A. Reclamation's current estimated groundwater safe yield is 4,600 AF, resulting in a need of 9,200 AF of CVP water, or 2,800 AF less than the District's request.</p> <p>The District has requested 12,000 AF for 4,000 acres, or 3.00 AF/A, without indicating whether this is a full or partial requirement and whether groundwater safe yield would be utilized also. In comparison, Reclamation's analysis indicates a total DDR of 14,400 AF for the same area, or a unit DDR of 3.60 AF/A. Reclamation's current estimated groundwater safe yield is 4,900 AF, resulting in a need of 9,500 AF of CVP water, or 2,500 AF less than the District's request.</p>
Willow Creek MWCo.	3500	1500	<p>The District has requested 3,500 AF for 500 acres, or 7.00 AF/A, without indicating whether this is a full or partial requirement and whether groundwater safe yield would be utilized also. In comparison, Reclamation's analysis indicates a total DDR of 2,400 AF for the same area, or a unit DDR of 4.80 AF/A. Reclamation's current estimated groundwater safe yield is 900 AF, resulting in a need for 1,500 AF of CVP water, or 2,000 AF less than the District's request.</p>
Subtotal (Glenn Co.)	30400	22200	See individual explanations above
Glide WD	16345	10700	<p>The District bases its request on a total DDR of 28,845 AF for 7,670 acres of existing District lands, indicating a unit DDR of 3.76 AF/A. Existing District supplies include 10,500 AF under an existing CVP contract and 2,000 AF of irrigation tailwater reuse, leading to the District's request of 16,345 AF. In comparison, Reclamation's analysis indicates a total DDR of 29,300 AF for the same area, or a unit DDR of 3.82 AF/A. Subtracting Reclamation's current estimated groundwater safe yield of 8,100 AF and existing CVP contract of 10,500 AF results in a need for 10,700 AF, or 5,645 AF less than the District's request.</p>
Holthouse WD	5340	2800	<p>The District did not provide a detailed basis for its request; however, it appears the discrepancy results from different safe yield estimates.</p>
Orland-Artois WD	40000	36700	<p>The District bases its request on a total water requirement of 129,317 AF for 30,568 acres, indicating a unit DDR of 4.23 AF/A. The District estimates that irrigation tailwater reuse</p>

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			and groundwater pumping would contribute 8 percent (10,345 AF) and 20 percent (25,863 AF) of the total requirement, respectively, indicating a need of 93,109 AF of supplemental surface water. Subtracting the existing CVP contract amount of 53,000 AF results in a need of 40,109 AF of additional CVP water. In comparison, Reclamation's estimated DDR for the same area is 115,900 AF, or a unit DDR of 3.79 AF/A. Subtracting Reclamation's current groundwater safe yield estimate of 26,200 AF and the existing CVP contract of 53,000 AF indicates a need for 36,700 AF of additional CVP water, or 3,300 less than the 40,000 AF requested.
Rancho Saucos WD	4000	4000	No reduction
Tehama Ranch MCo.	1500	1500	No reduction
Yolo-Solano CVP WSCG	42000	42000	No reduction
Yolo-Zamora WD	78054	49400	The District bases its request on a total requirement of 89,054 AF for 24,700 acres, or an average of 3.61 AF/A, including allowances for double cropping, almond frost protection, farmstead requirements, and conveyance losses. The District estimates that 36,000 AF of groundwater is available, but that 25,000 AF (69 percent) is unsuitable for irrigation due to high boron concentrations, indicating a safe yield of 11,000 AF. The resulting surface-water need is then 78,054 AF. In comparison, Reclamation estimates a total DDR of 91,400 AF for the same acreage; or a unit DDR of 3.70 AF/A. Reclamation estimates that 57,000 AF of groundwater is physically available and tentatively allows 15,000 AF for boron mitigation, indicating a safe yield of 42,000 AF. The resulting CVP water need is 49,400 AF, or 28,654 AF less than the District's request.
Subtotal (Agriculture)	360639	261500	
MUNICIPAL AND INDUSTRIAL			
Shasta Dam Area PUD	6000	4800	The agency's request is based on year 2028 population projections whereas Reclamation's analysis uses year 2015 projections.

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Agency	Request	Need	Reason for Reduction
Yolo-Solano CVP WSCG			
City of Davis	9200	9200	No reduction
City of Woodland	11800	11800	No reduction
Solano County	106000	79400	The group bases its request on ultimate water requirements associated with year 2020 population projections, whereas Reclamation's analysis is based on year 2015 population projections. Reclamation's estimated need includes 10,000 AF specifically for possible future transfers to Napa County.
Subtotal (Yolo-Solano WSCG)	127000	100400	
Subtotal (M&I)	133000	105200	
FISH & WILDLIFE (LEVEL 2)(b)			All refuges: Supply level 2 needs are based on providing firm water equal to existing average supplies. Requests are equal to Level 4 needs (see below).
Sacramento NWR	50000	46400	
Delevan NWR	30000	20950	
Colusa NWR	25000	25000	
Sutter NWR	30000	23500	
Gray Lodge WMA	36000	27400	
Subtotal (F&W Level 2)	171000	143250	
FISH & WILDLIFE (LEVEL 4)(b)			All refuges: No reduction; requests are based on providing Level 4 needs.
Sacramento NWR	50000	50000	
Delevan NWR	30000	30000	
Colusa NWR	25000	25000	
Sutter NWR	30000	30000	
Gray Lodge WMA	36000	36000	

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Agency	Request	Need	Reason for Reduction
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Subtotal (F&W Level 4)	171000	171000	
GRAND TOTALS			
with F&W Level 2 =	664639	509950	
with F&W Level 4 =	664639	537700	

(a) DDR denotes District Delivery Requirement. This is the total amount of water required (per acre) to satisfy the field delivery requirement (FDR) plus an allowance for district distribution system losses. The FDR, in turn, includes crop water requirements, leaching requirements, and an allowance for losses incurred in water application.

(b) Adapted from Reclamation sponsored Draft Refuge Water Supply Investigation (1988). Existing average water supply determined by USFWS.



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